

FY 2024-29 Capital Improvement Program

Bureau of Water & Wastewater
January 12, 2023



BALTIMORE CITY
DEPARTMENT OF
PUBLIC WORKS

Department of Public Works

Mission: We support the health, environment, and economy of our City and the region by providing customers with safe drinking water and keeping neighborhoods and waterways clean.

Vision: To be a strong proponent and protector of our environment and the health and vitality of our communities.



Organization Chart



**Director
Jason W. Mitchell**



**Deputy Director
Richard Luna**



**General Counsel and
Chief Compliance
Officer
Darnell Ingram**



**Chief of Staff
Audree V. Jones-Taylor**



**Acting Bureau
Head, Solid Waste
Yvonne Moore-
Jackson**



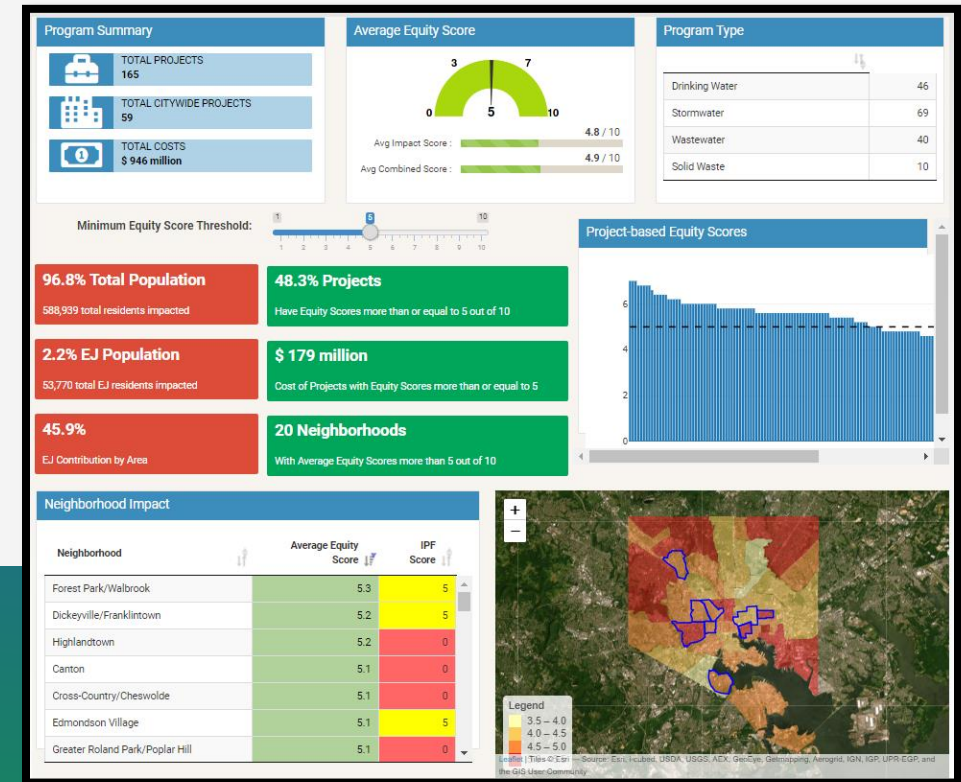
**Bureau Head, Water
and Wastewater
Yosef Kebede, PE**



**Chief, Equity and
Environmental Justice
Marco Merrick**

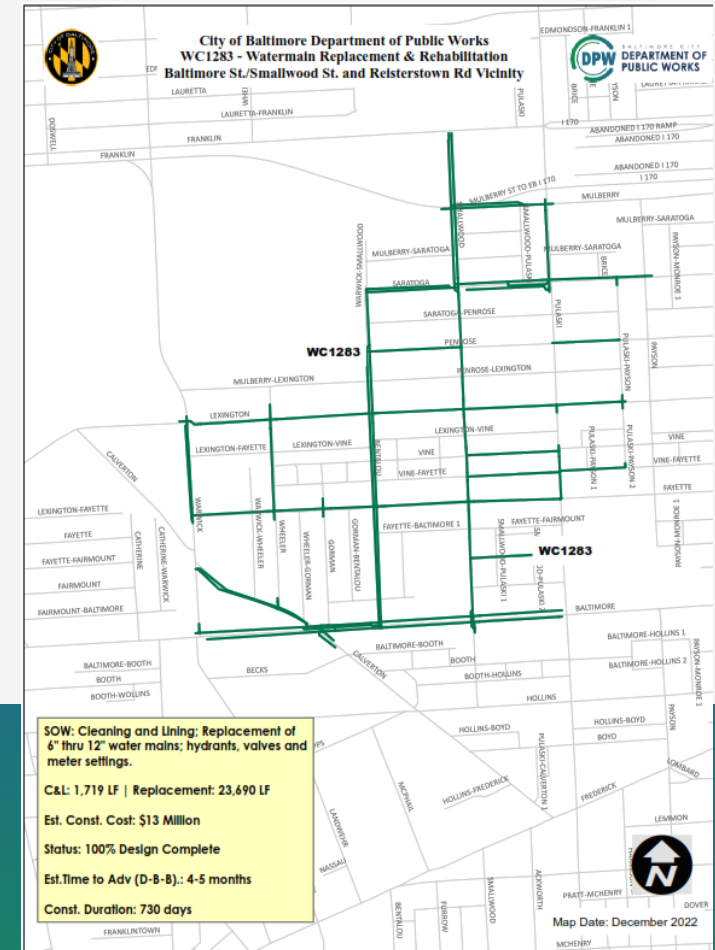
Equity In All That We Do

OVERALL RANKING						
DETAILED RANKING						
JUSTICE40 RANKING						
DOWNLOAD JUSTICE40 SCORES						
Name	Type	Justice40 Score	Climate change	Clean energy and energy efficiency	Clean transit	Affordable housing
ER-4126 (ER-4063) Environmental Restoration Bundle 10 - Lot Greening: CARE Communities/ McElderry Park/ Milton-Montford	Stormwater	8.4	0	5	5	
Mount St and Vicinity Water Main Replacements	Drinking Water	8.4	0	5	5	
WC 1416: E. Madison St. and Vicinity Water Main Replacements	Drinking Water	8.4	0	5	5	
ER-4126 (ER-4066) Environmental Restoration Bundle 10 - Lot Greening: McElderry Park	Stormwater	6.9	0	2.4	5	
Purchase of a New Inner Harbor Facility Yard	Solid Waste	6.7	0	0	0	
ER-4126 (ER-4106) Environmental Restoration Bundle 10 - Small SWM BMP 13	Stormwater	6.1	0	4	5.3	
QRL Expansion	Solid Waste	6	0	5	0	
Quarantine Road Landfill Compliance	Solid Waste	6	0	5	0	
ER-4126 (ER-4064) Environmental Restoration Bundle 10 - Facility Greening: Public Schools Phase I	Stormwater	5.9	0	2.9	2.9	
ER-4126 (ER-4105) Environmental Restoration Bundle 10 - Small SWM BMP 13	Stormwater	5.7	0	2.5	0	
ER-4126 (ER-4105) Environmental Restoration Bundle 10 - Small SWM BMP 12	Stormwater	5.7	0	2.5	0	
SC 969 - Improvement to Horner's Lane Siphon Across Armistead Run	Wastewater	5.7	0	0	9	
SWC 7759 Pulaski Highway Drainage Improvements 2	Stormwater	5.6	0	0.8	5.6	
WC-1283 WM Replacement Reisterstown	Drinking Water	5.5	0	3.8	1.2	
ER-4061 Environmental Restoration Bundle 14	Stormwater	5.3	0	3.2	1.8	
ER-4083 Environmental Restoration Bundle 14	Stormwater	5.3	0	1.3	5.4	
WC1429 Frederick Ave Water Main Replacement	Drinking Water	5.3	0	5	5	
WC 1317 - Pulaski Hwy, Conkling St and Vicinity Water Main Rehab and Replacement	Drinking Water	5.3	0	0	6.6	
ER 4098 Bioretention Areas (Masonville and GGI)	Stormwater	5.2	0	1.8	1.4	
ER-4057 Environmental Restoration Bundle 15 - ESD: Frankford / Belair Edison	Stormwater	5.2	0	3.9	0.6	



Equity In All That We Do

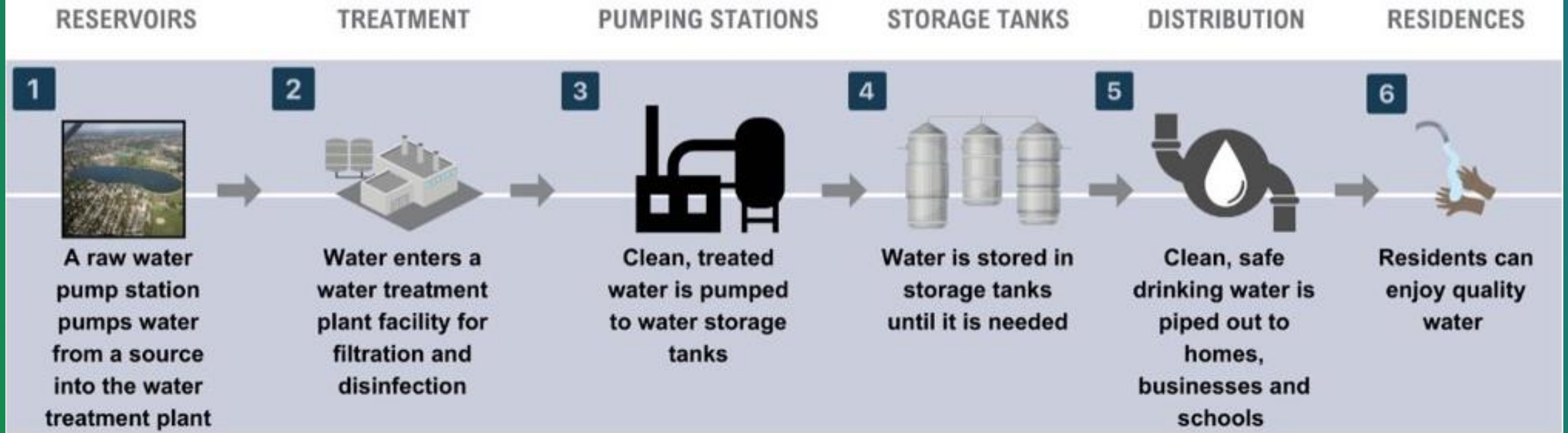
City of Baltimore WMR Program						
Potential Contracts for MBE Contractors Training and Development						
Contract	Area	Scope of Work (SOW)	Est. Qty.	Est. Const. Cost (Million)	Status	Duration (CCD)
WC1282	Water Main Replacement and Rehabilitation at Franklin Square Neighborhood and Vicinity	Cleaning and Lining; Replacement of 6" thru 12" water mains. Hydrants, valves and meter settings.	C&L: 1,324 LF. Replacement: 14,160 LF	\$10	100% design complete. Need time to make it bid-ready.	730
WC1283	Watermain Replacement & Rehabilitation Baltimore St./Smallwood St. and Reisterstown Rd Vicinity	Cleaning and Lining; Replacement of 6" thru 12" water mains; hydrants, valves and meter settings.	C&L: 1,719 LF. Replacement: 23,690 LF	\$13	100% design complete. Need time to make it bid-ready.	730
WC1313	Water Main Replacement & Rehabilitation in Upper Fells Point & West Canton Neighborhoods	Cleaning and Lining; Replacement of 6" thru 30" water mains; hydrants, valves and meter settings.	C&L: 5,483 LF. Replacement: 25,916 LF	\$16	100% design complete. Need time to make it bid-ready.	730



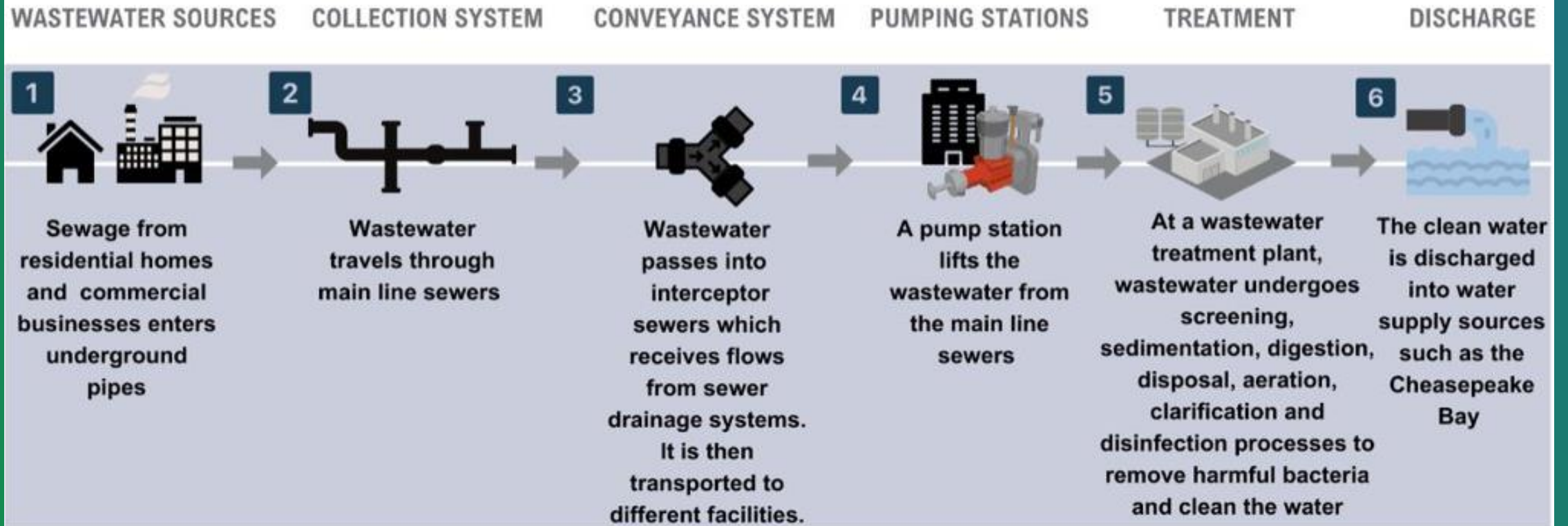


Bureau of Water & Wastewater

Baltimore City Drinking Water System



Baltimore City Wastewater Treatment System



FY 2024 Requests

\$589.3 Million

CIPI #	Title	Requests (\$ in millions)
525 & 520	Stormwater and Environmental Restoration	97.1
551	Wastewater	226.7
557	Water	250.0

FY 2024-2029 Requests

\$2.6 Billion

CIPI #	Program	Requests (\$ in Millions)
525 & 520	Stormwater and Environmental Restoration	245.0
551	Wastewater	1,411.8
557	Water	958.9



Fund 520 & 525: Stormwater Utility

Recent Accomplishments

ER 4025 E Slope Repair on Lower Stony Run Stream Project:
Restored approximately 400 linear feet of Lower Stony Run Stream
in the Wyman Park.

Before



After



FY 2024 Requests: Storm Water Program

21 Storm Water Program FY2024 CIP projects:

\$57.3M



CIP #	Title	\$ Request
520-013	SDC-7772 Study/Design of Patapsco Avenue Flood	\$13.716M
520-046	SDC-7768 Harris Creek Watershed Storm Drainage	\$11.352M
520-049	SDC-7773 Gwynns Falls Drainage	\$400K
520-051	SDC-7774 Baltimore Harbor Drainage	\$5K
520-055	MS4 Permit Requirements	\$9.86M
520-065	Hillen Road Flooding	\$2.6M
520-068	SDCTBD-Drainage Repairs and Improvements at various locations	\$2.125M
520-069	ER-4123 (SDC-7769) North Point Road Improvements	\$839K
520-070	SDC 7802 Hillen Road and 35th Street Storm Drain Improvement	\$400K
520-071	DC-7805 Drainage Repairs and Improvements at various locations FY2023	\$4.598M
520-073	Project 1319 Stormwater Hydraulic Modeling	\$3.608M
520-075	SDC-7800 Drainage Repairs and Improvements at Various Locations FY2022	\$2.125M
520-076	SDC 7804 2325 East Fort Ave Drainage Improvement Project	\$800K
520-077	ER 4132 BMP/SD Repair Design	\$1M
520-078	SDC 7806 Drainage Study and Design	\$1M
520-079	ER4134 Outfall Stabilization	\$1M
520-081	CIP Phase II Implementation (Stormwater)	\$29K
520-082	ER4133 BMP Maintenance and Inspection	\$500K
520-082	SDC-7795 Jones Fall Drainage Improvement	\$667K
520-084	SDC 7803 – 3301 Childs Street Drainage Improvement Project	\$300K
520-715	Northeast Baltimore Drainage Improvements	\$381K

FY 2024 Requests: Pollution/Erosion Control

30 Pollution/Erosion Control FY2024 CIP projects:

\$39.8M

CIPI #	Title	\$ Request
525-005	Moore's Run Environmental Restoration #1 & #2	\$6.418M
525-013	Herring Run Stream Restoration: Western Branch ER-4128 (ER-4054) Bundle 6	\$5.938M
525-015	ESD: Clifton Park – Environmental Restoration Bundle 13 (ER-4129)	\$3.007M
525-018	ER-4126 (ER-4106) Environmental Restoration Bundle 10	\$1.411M
525-020	ESD: Masonville Cove, Brooklyn, Curtis Bay ER-4129 Restoration Bundle 13	\$263K
525-021	ESD: Greater Mowdawnin - ER-4129 (ER-4062) Restoration Bundle 13	\$1.131M
525-022	ESD: Howard Park/Edmonson Village ER-4130 (ER-4059) Restoration Bundle 15	\$224K
525-024	ESD: DeWees Park & Chinquapin Park ER-4130 Restoration Bundle 15	\$226K
525-025	ESD: Orchard Ridge / Armistead Gardens - ER-4130 Restoration Bundle 15	\$216K
525-029	ESD: Cherry Hil - ER-4127 (ER-4060) Environmental Restoration Bundle 14	\$1.224M
525-030	Dead Run Stream Restoration Project 1 (Hunting Ridge) - ER-4121 (ER-4050)	\$1.396M
525-031	Lot Greening: Mt. Winans - ER-4126 (ER-4066) Restoration Bundle 10	\$336K
525-033	Public Schools Phase III - ER-4126 (ER-4067) Restoration Bundle 10	\$1.453M
525-034	ER-4121 Herring Run 84" Water Main Stream Restoration	\$705K
525-039	ER-4126 (ER-4068) Environmental Restoration Bundle 10b	\$758K
525-043	Small SWM BMP 12 - ER-4126 (ER-4105) Environmental Restoration Bundle 10	\$1.172M
525-044	ER-4137 Lower Stony Run Reach 3 Repair	\$497K
525-047	Lot Greening: CARE Communities/McElderry Park ER-4126 Restoration Bundle 10	\$237K

FY 2024 Requests: Pollution/Erosion Control (cont'd)

CIPI #	Title	\$ Request
525-048	Facility Greening: Public Schools Phase I - ER-4126 Restoration Bundle 10	\$573K
525-049	Facility Greening: Public Schools Phase II ER-4126 Restoration Bundle 10	\$149K
525-050	Dead Run Stream Restoration Project 2 (Lazear & Franklinton Rd) ER-4124	\$4.051M
525-057	ER-4055 Urgent Need Stream Repair 2	\$920K
525-058	Facility Greening Project 15	\$81K
525-059	Facility Greening Project 16	\$369K
525-061	ER 4121 (SDC-7788) Environmental Restoration Bundle 7 Seamen Ave Improvements	\$591K
525-062	ER-TBD Facility Greening Project 13	\$388K
525-069	SDC-7772 Study/Design of Patapsco Avenue Flooding	\$4.279M
525-070	ER 4024 MS4 BMP Monitoring	\$3.76M
525-071	ER 4040 Moore's Run Environmental Restoration Project	\$1.163M
525-072	ER-4045 Environmental Restoration Bundle 11 - Gwynns Falls Pond Retrofits	\$274K



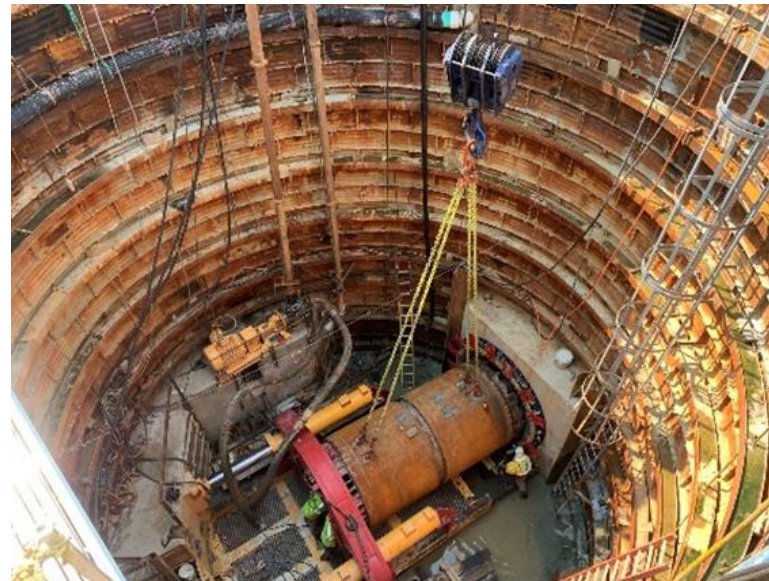
Fund 551: Wastewater Utility

Recent Accomplishments Wastewater

**SC-940 High Level Sewershed – Liberty Heights &
Reisterstown Road**



Micro Tunneling Machine Setup



Micro Tunneling Receiving Pit

Recent Accomplishments Wastewater

SC 941 – Jones Falls Sewershed – North Broadway Corridor



Removal of Existing Sewer Pipe



Pressure Sewer Pipe Installation

Modified Consent Decree

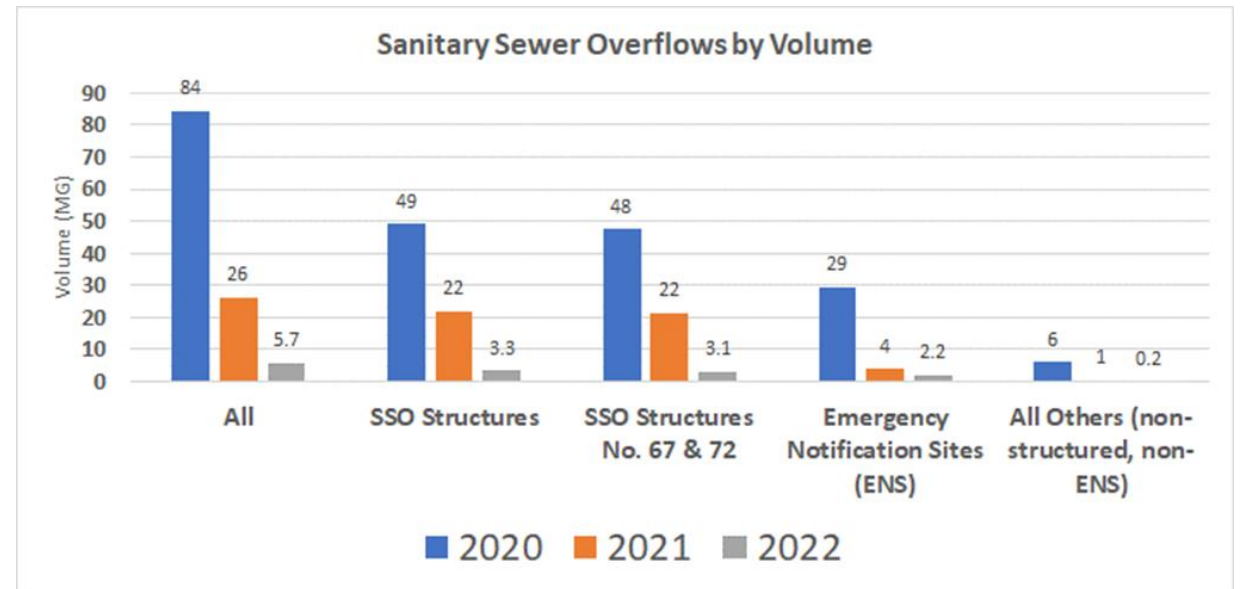
Consent Decree entered in September 2002

Addresses sanitary sewer overflows (SSOs) from the City's collection system

Modified Consent Decree was entered in October 2017.

Phase I deadline – January 1, 2021

Phase II deadline – December 31, 2030



93% reduction in wet-weather SSO volume (pre and post Headworks project & Phase 1 projects)

FY 2024 Wastewater Requests - Facilities

35 Wastewater FY2024 CIP projects:

\$226.7M

16 Facility projects:

\$162.6

CIP #	Title	\$ Request
551-022	Eastern Avenue Pump Station Rehabilitation	33,056
551-027	Patapsco WWTP Headworks Upgrade	70,720
551-052	SC-986 Back River Deep Manhole PST Drainage	6,480
551-006	Proj. 1269 210 Guilford Street Off Reno WW	80
551-088	SC-995 Miscellaneous Pump Station Rehab	11,960
551-090	SC-090 Dundalk Pump Station Rehabilitation	12,960
551-092	SC-Back River WWTP Rapid Sludge Loading Fac	125
551-093	SC-996 Back River WWTP Sludge No. 3 & 4	2,344
551-094	SC-1023 High-Rate Facility Ren at BRWWTP	124
551-095	Patapsco Sludge Digestion Facilities	5,400
551-162	CMMS Implementation for Facilities (WW)	233

FY 2024 Wastewater Requests - Facilities (cont'd)

CIPI #	Title	\$ Request
551-165	Back River WWTP Scale House Replacement	1,555
551-171	Neiman Avenue Office Renovations WW	1,500
551-526	SC-992 Back River Egg-Shaped Digester Rehab	81
551-605	SC-993 Jones Falls Pumping Station Capacity Upgrade	11,000
551-089	Back River Power Reliability Improvements	5,000

FY 2024 Wastewater Requests - Utilities

35 Wastewater FY2024 CIP projects:

\$226.7M

19 Utility projects:

\$64.1M



CIPI #	Title	\$ Request
551-045	Proj-1294 Consent Decree Progam Mgmt A1	2,513
551-132	SC-1014 Jones Falls Sewer Shed Inflow and Infiltration Reduction – Project 01	38
551-071	Gwynns Falls Phase II Sewer Shed Improvements for 5 years LOP (GF-2_Conveyance Upgrade	2,969
551-101	Gwynns Falls Sewer Shed Inflow and Infiltration Reduction – Project 01	70
551-111	Low Level Sewer Shed Inflow and Infiltration Reduction – Project 02	10,623
551-112	SC-1010 Low Level Sewer Shed Inflow and Infiltration Reduction – Project 03	11,000
551-115	Herring Run Sewer Shed Inflow and Infiltration Reduction – Project 01	10
551-168	SC-998 Replacement	8,078
551-116	Herring Run Sewer Shed Inflow and Inflow and Infiltration Reduction – Project 02	11
551-062	SC-1013 High Level Sewer Shed Inflow and Infiltration Reduction – Project 01	5,147
551-161	Project 1303.1 Amendment 1 Sanitary Sewer Interceptors and Siphons Condition Assessment and Analysis	2,160
551-164	1303.2 Amendment 1 Sanitary Sewer Interceptors and Siphons	2,160

FY 2024 Wastewater Requests - Utilities (cont'd)

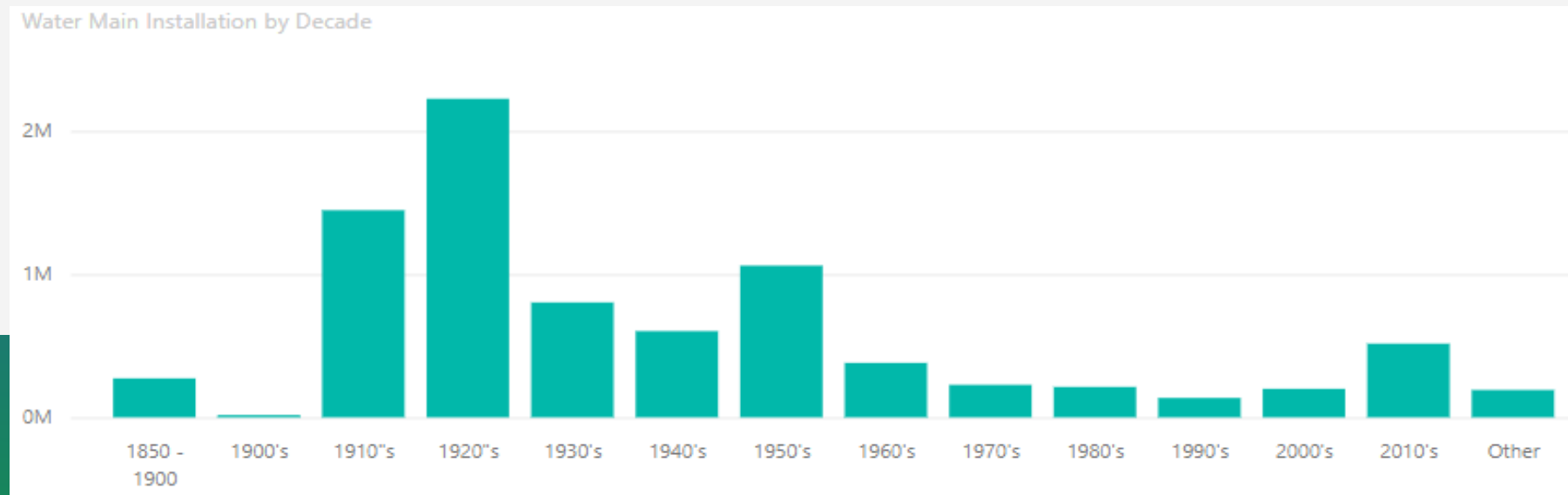
CIP #	Title	\$ Request
551-034	High Level Interceptor Rehabilitation	4,500
551-137	SC-1011 Low Level Sewer shed Inflow and Infiltration Reduction – Project 04	6,507
551-158	SC-1027 Rehab and Improvements to Sanitary Sewers at Various Locations in Baltimore City FY22	1,082
551-163	On Call for Engineering Services for Improvements to Baltimore City Sanitary Sewers In Various Locations	540
551-166	SC-1030 Urgent Needs Improvements to Baltimore City Sanitary Sewers in Various Locations-Zone 2	1,500
551-609	SC-866 Southwest Diversion Pressure Sewer Improvements	5,005
551-056	1303.1 Sanitary Sewer Interceptors and Siphons Repairs	186



Fund 557: Water Utility

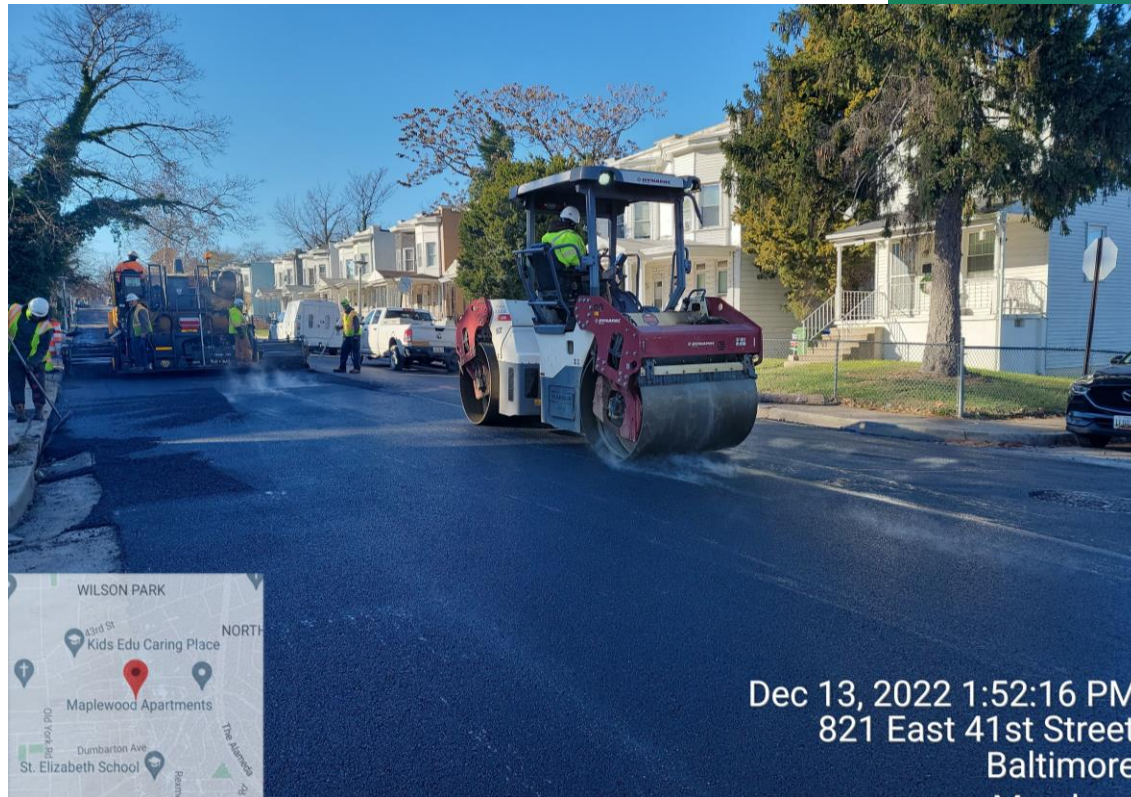
Long Term Needs

Average Age of Water Main Assets
Approximately 80 Years



Length of Active Baltimore City Water Mains Installed by Decade Average Age is Approximately 80 Years Old; information courtesy of the DPW Office of Asset Management

Water Utility Recent Accomplishments



Water Main Replacement Program

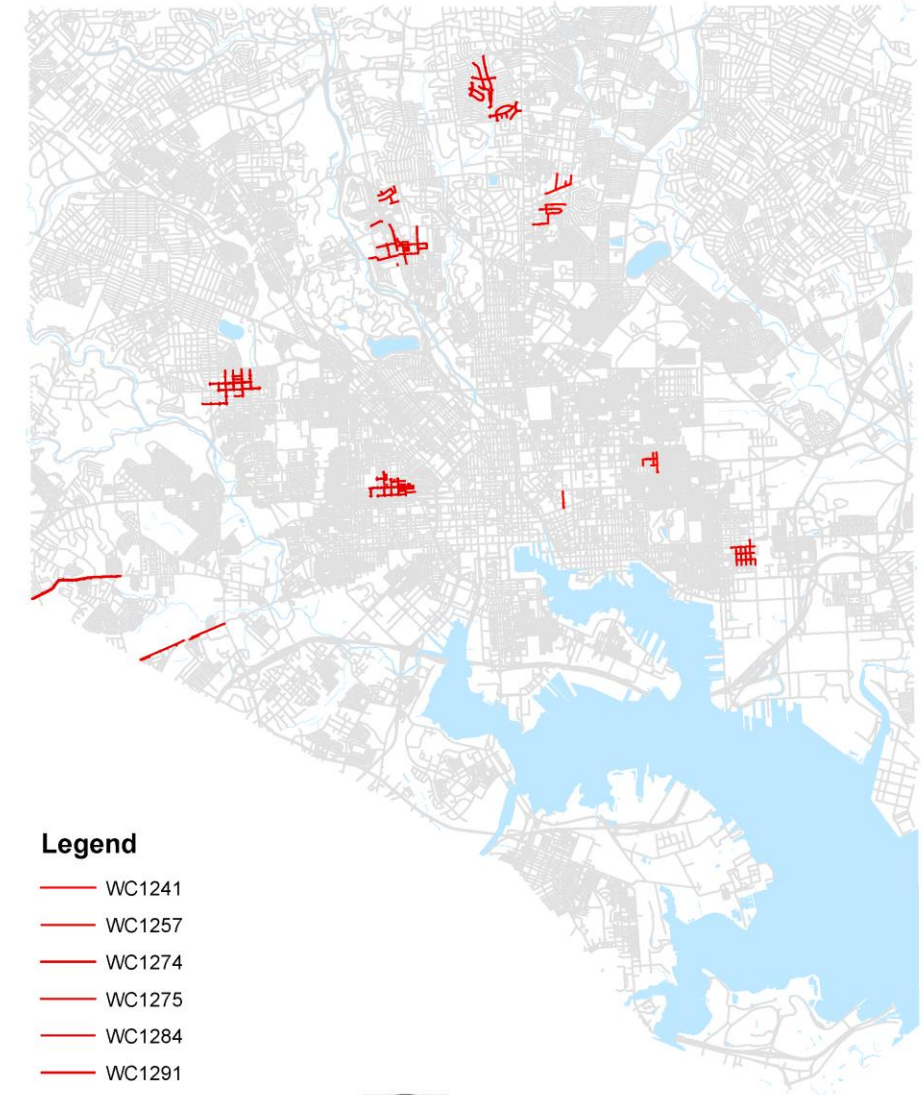
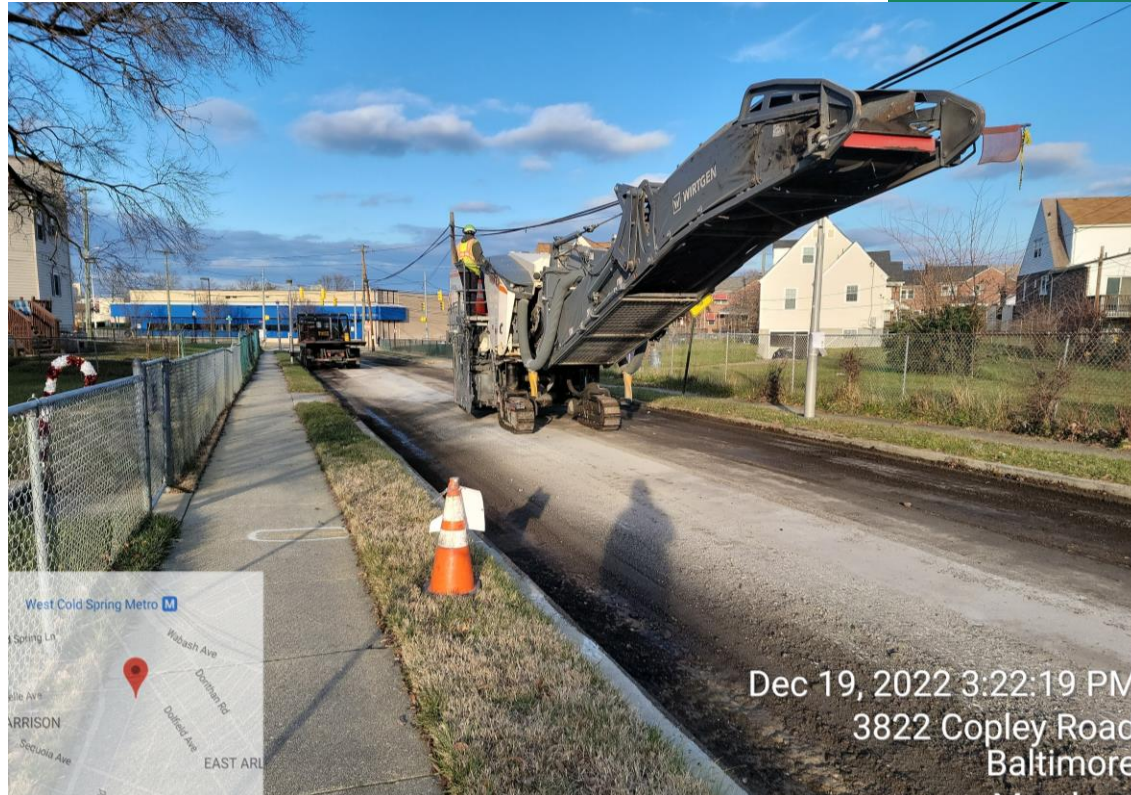
- **FY 2023:** 8.48 miles of water mains replaced through December 31, 2022

Interagency Coordination

- **WC 1290** Water main replacements in downtown with DOT, Mercy Medical, and their contractor installing chilled water and steam lines.
- **WC 1425** 20-inch water main replacement with DOT improving West Patapsco Ave



Water Utility Recent Accomplishments

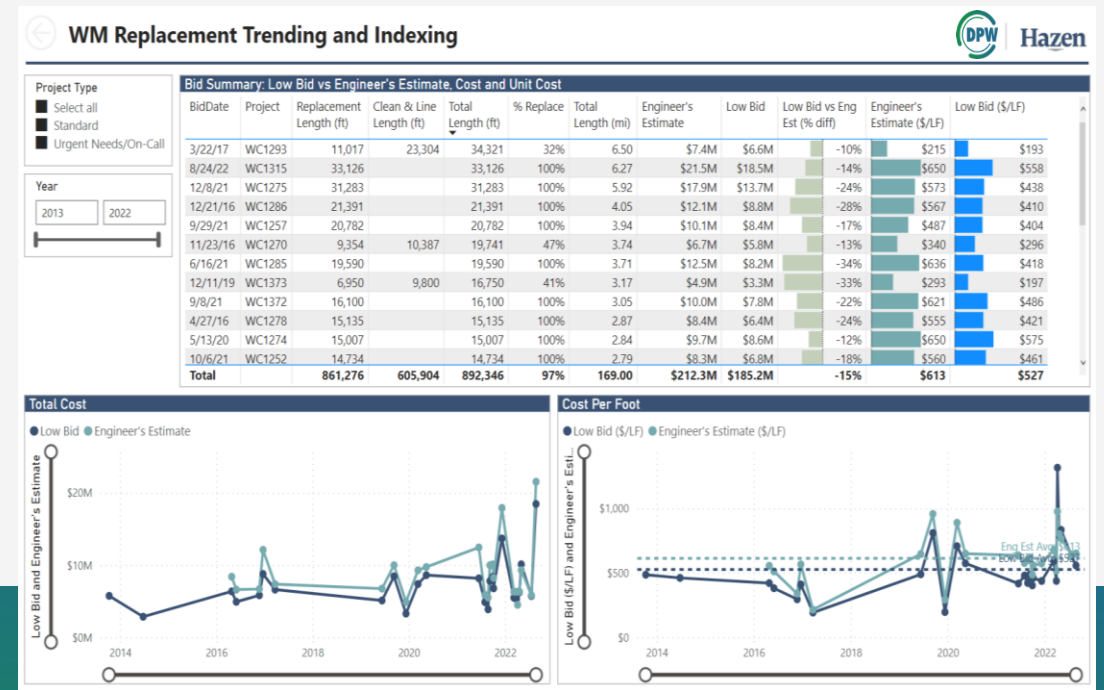
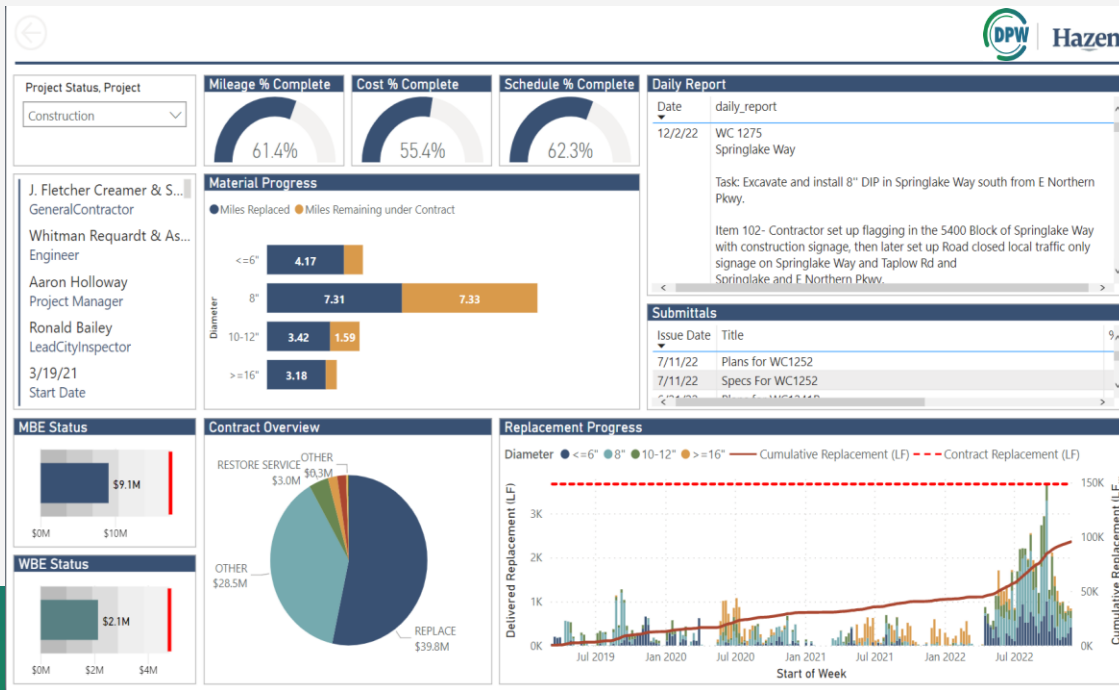


Legend

- WC1241
- WC1257
- WC1274
- WC1275
- WC1284
- WC1291



Development of Real-time Data Dashboards



Recent Accomplishments (OAM)



36" PCCP with Severely Corroded and Broken Pre-Stressed Wires



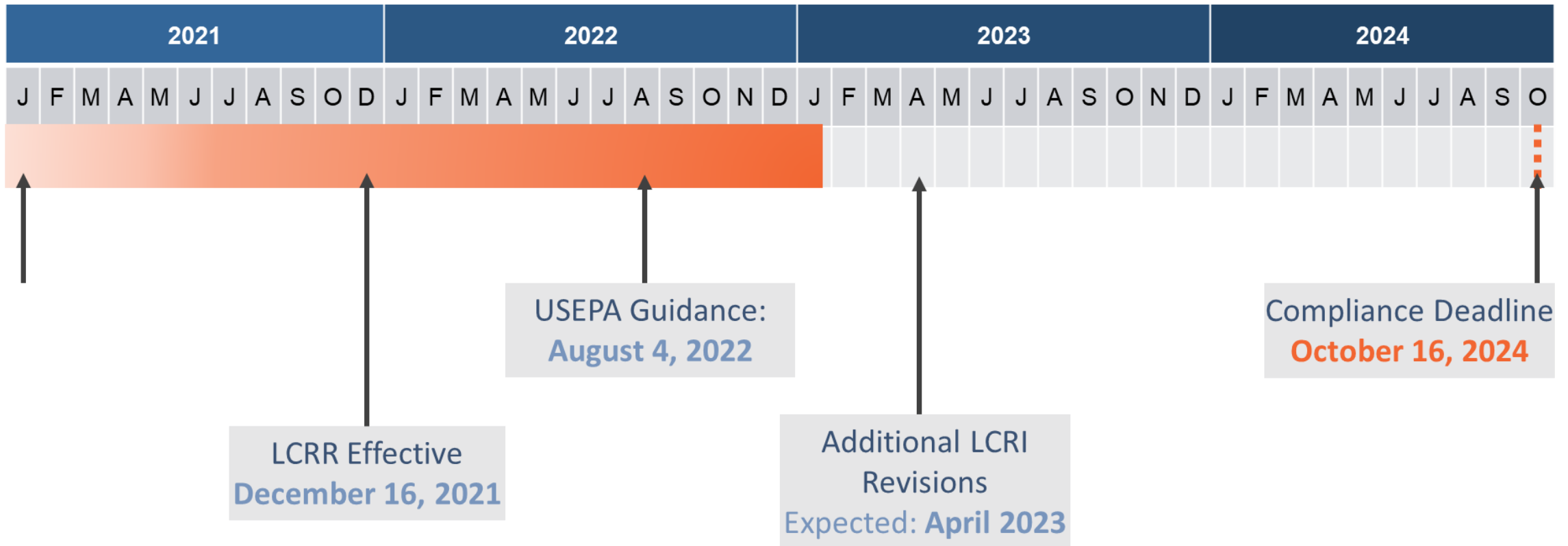
**36" PCCP Damaged Pipe Replaced with
DIP w/ Access**

Proactive 36" PCCP Pipe Replacement with DIP W/ Access

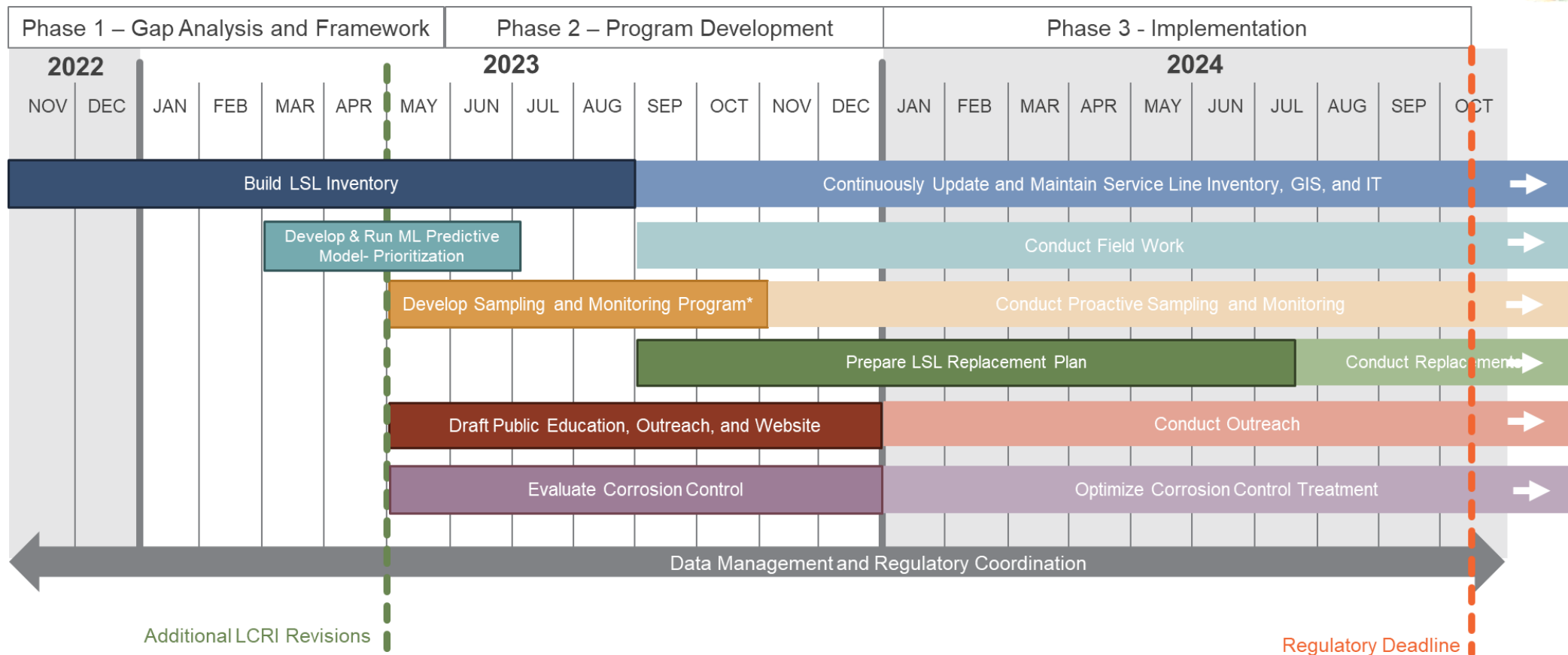
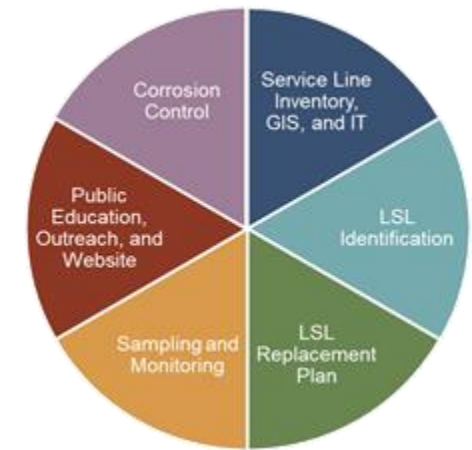
LCRR Compliance Timeline

Compliance Deliverables Due **October 16th, 2024**:

- *LSL Inventory* (submit Template to MDE)
- *LSL Replacement Plan* (submit to MDE)
- *Compliance Sampling Site Selection*
- *List of Schools and Childcare Facilities*



Building a Program to Comply with LCRR



FY 2024 Water Requests - Facilities

22 Water FY2024 CIP projects:

\$250M

9 Facility projects:

\$95.5M

CIPI #	Title	\$ Request
557-015	Neiman Avenue Office Renovations	1,500
557-022	WC-1326 SCADA Single Platform	13,300
557-105	Montebello WFP 1 & 2 Filter Control Panels	7,777
557-106	Montebello WFP 2 Sedimentation Basins	15,877
557-168	WC-1382 Montebello 1 Finished Reservoir	30,000
557-170	WC-1408 Montebello Plant 2 Improvement	5,000
557-223	Watershed Comprehensive Plan	3,240
557-281	Urgent Needs for Facilities FY 2024	3,000
557-922	WC-1229 Vernon Pump Station Rehabilitation	15,800

FY 2024 Water Requests - Utilities

22 Water FY2024 CIP projects:

\$250M

13 Utility projects:

\$154.5M



CIPI #	Title	\$ Request
557-222	WC-1401 - On-Call Design & Engineering	2,220
557-225	Project 1358 A1 Valve and Fire Hydrant	2,700
557-259	WC-1419 Greenmount Ave 36" Water Main	621
557-268	WC-1406 Replacement No.1 & 2	6,480
557-269	WC 1392 Franklinton Road Water Main	7,040
557-270	BC 6516 Beckleystville Road Bridge	11,233
557-271	BC 6504 Phoenix Road Bridge	432
557-272	BC 6517 Gunpowder Road Bridge	432
557-273	BC 6518 Kidds Schoolhouse Road	432
557-274	Quantitative Audit and Loss Reduction	6,480
557-275	Water Main Anode Installation	864
557-276	Water Main Replacement Program CMA	12,960
557-277	Lead Service Line Inventory & Replacement	102,600



Questions?